Polarized Proton Run

February 5, 2008

January 29

- Both beams circulating at injection.
- Snakes turned on.
- RF capture, instrumentation setup.

January 30

- Blue main quad shows up to 450 ppm deviations. Steve provided a new ramp (pp81) that was checked by Don overnight.

January 31

- Ring-to-ring synchro setup finished
- OptiCalc/WfgManager issues (wrong Yellow horizontal integer tune) resolved
- Yellow γ_t-families found at wrong values
- Disabled γ_t events on hysteresis ramp
- Ramp development; first blue ramp looked already very promising (copied Run-6 setpoints, no feedback)

February 1

- Problems with main dipole trim. The horizontal correctors added up to -5.1 mrad in Blue, -8.3 mrad in Yellow instead of zero. This compensated the main dipole trim. After subtracting the average kick from all correctors, the beam was centered with zero main dipole trim.

- Yellow losses on the ramp pulled the permit and thus hampered ramp development in blue.

- Ramp development with blue only.

- Yun fed-forward decoupling on Blue ramp. This changed tunes, chromaticities, and orbits.

- Blue beam has made it to store (feedback off), 71.7 percent efficiency (Artus on)!

February 2

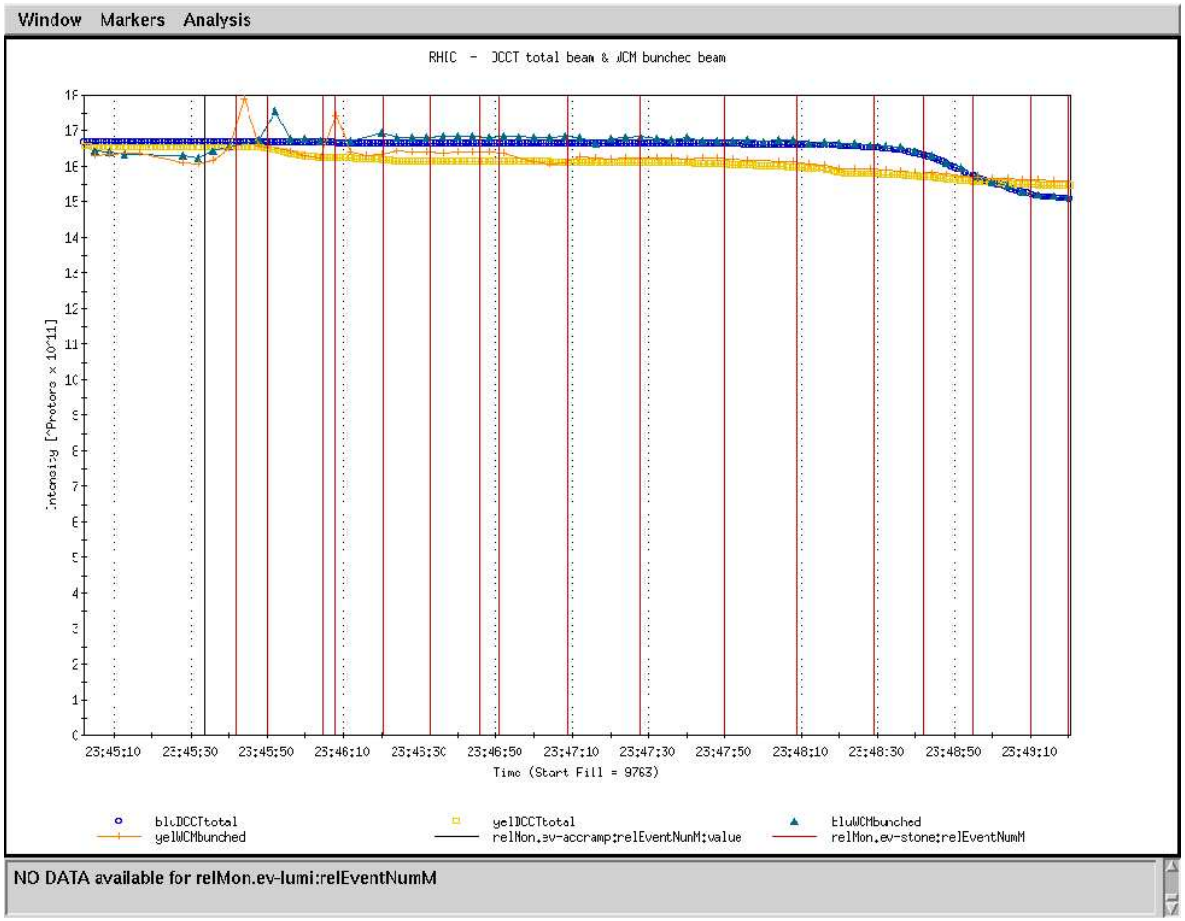
- AGS RF station B down for 5 hours.
- Ramp development in both rings.
- Blue transmission 81 percent, Yellow 53 percent.

February 3

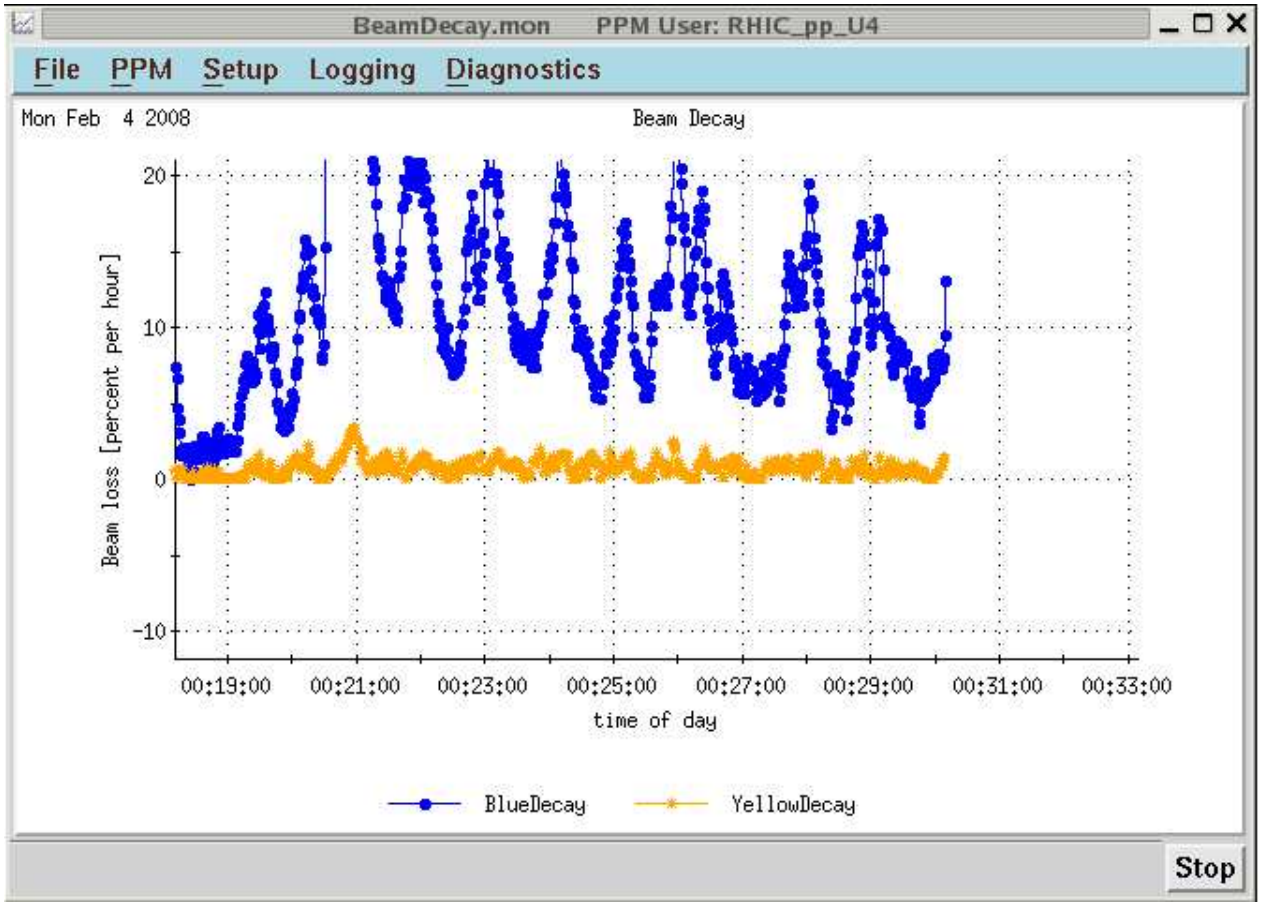
- Store radii were found off by a millimeter. RF frequency was adjusted accordingly (as every year).

- Yellow design tune showed wiggles that caused losses around snapback. Steve adjusted slopes at stepstones.

- Ramp efficiency is above 90 percent. Increased number of bunches to 37 overnight. Some collisions.



- Blue beam decay shoots up every minute or so, in coincidence with 10 Hz orbit jitter amplitude increases. Orbit correction brought it down. Very touchy.



February 4

- Automatic orbit correction implemented; safes Blue lifetime at store - but still 5 percent decay/hour.

- Provided first overnight collisions. Background conditions are unacceptable at STAR.

February 5

- A decision has been made to abandon the new working point due to large blue beam decay and unacceptably high backgrounds, caused by 10 Hz orbit oscillations.

- Beginning this afternoon, we will start developing pp83 (=pp28 from Run-6), which has the "old" working point (.69/.68)